



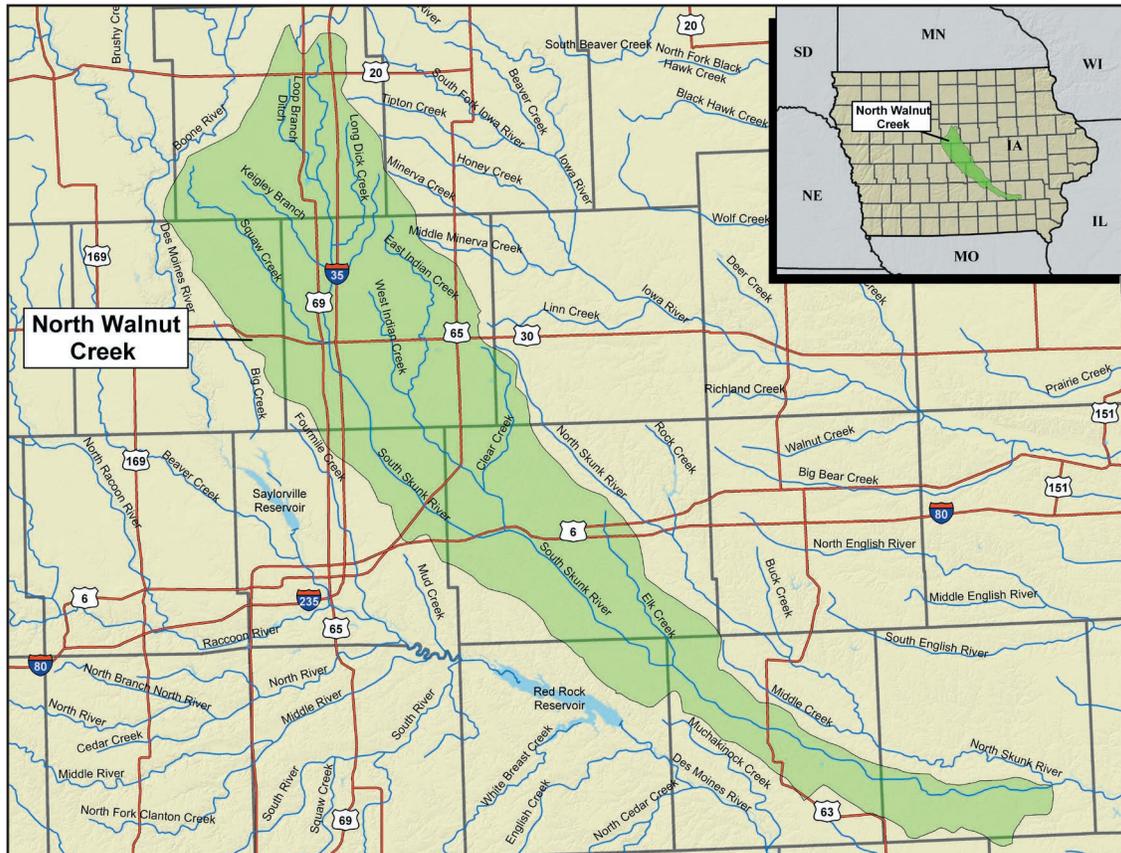
United States Department of Agriculture

Conservation Effects Assessment Project (CEAP)

Watershed Fact Sheet

North Walnut Creek Watershed, Iowa: 2004-2006

An ARS* Benchmark Research Watershed, one of 24 CEAP watershed projects.



CEAP Assessment

Evaluate alternative methods for reducing nitrate concentrations in the surface water of an intensively tile-drained agricultural watershed.

Watershed Description

- Located in the Central Iowa and Minnesota Till Prairies and Des Moines Lobe physiographic regions.
- Intensive row crop production
- 12,700 acres
- 80% cropland
- Only animal production operations are a seasonal beef pasture area and a small horse farm.

Issues: Stream flow from Walnut Creek has been extremely variable during the past 12 years. Nitrate is the primary pollutant of concern related to agricultural activities, often exceeding the drinking water standard.

*Agricultural Research Service



ARS technician Jeff Nichols collects a water sample from the Walnut Creek watershed in Ames, Iowa. Samples are collected weekly from this area and surrounding watersheds to study the effects farming practices have on water quality.

Approach

Water Sampling: Nitrogen, phosphorus, pesticides, sediment

Watershed Models: SWAT (Soil and Water Assessment Tool), AnnAGNPS (Annualized Agricultural NonPoint Source)

Water Quality Monitoring: Walnut Creek stream and county drain data

Communicating Results

A series of peer-reviewed journal publications, conference proceedings, and a final report.



Aerial view of ponds in North Walnut Creek Watershed.



Side-dress application of fertilizer.

Collaborators

- USDA Natural Resources Conservation Service
- USDA Agricultural Research Service
- Texas Institute for Applied Environmental Research

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